



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/721,445

11/24/2003

Hossein Sedarat

6491P066

7128

7590 07/26/2007  
Jeffery Scott Heilesen  
Blakely, Sokoloff, Taylor & Zafman LLP  
1279 Oakmead Parkway  
Sunnyvale, CA 94085

EXAMINER

WILLIAMS, LAWRENCE B

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

07/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/721,445             | SEDARAT ET AL.      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Lawrence B. Williams   | 2611                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 16-27 and 31-42 is/are allowed.
- 6) ☒ Claim(s) 13-15, 28-30, 43-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-45 have been considered but are moot in view of the new ground(s) of rejection.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 13-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/773,054. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims disclose either explicitly or inherently the same method. Claim 13 of the co-pending application discloses a method comprising: determining a power

Art Unit: 2611

level of Gaussian noise in a signal (disclosed in line 5 of claim 1 of the co-pending application); detecting whether non-Gaussian noise is in the signal (disclosed in line 2 of claim 1 and line 4 of claim 4 of the co-pending application); determining a gain factor associated with the non-Gaussian noise (disclosed in lines 6-7 of claim 1 of the co-pending application); and applying the gain factor to the power level of the Gaussian noise in the signal to calculate an equivalent noise power (disclosed in lines 8-9 of claim 1 of the instant application).

With regard to claim 14, the limitations of claim 14 are disclosed in claim 2 of the co-pending application.

With regard to claim 15, the limitations of claim 15 are disclosed in claim 3 of the co-pending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 28-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 14-18 of copending Application No. 10/773,054. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims disclose either explicitly or inherently the same method. Claim 28 of the co-pending application discloses a machine-readable medium storing executable instructions to cause a device to perform a method comprising: determining a power level of Gaussian noise in a signal (disclosed in line 7 of claim 1 of the co-pending application); detecting whether non-Gaussian noise is in the signal (disclosed in line 4 of claim 1 and line 5 of claim 17 of the co-pending application); determining a gain factor associated with the non-

Gaussian noise (disclosed in lines 8-9 of claim 1 of the co-pending application); and applying the gain factor to the power level of the Gaussian noise in the signal to calculate an equivalent noise power (disclosed in lines 10-11 of claim 1 of the instant application).

With regard to claim 29, the limitations of claim 29 are disclosed in claim 15 of the co-pending application.

With regard to claim 30, the limitations of claim 30 are disclosed in claim 16 of the co-pending application.

5. Claims 43-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 27-30 of copending Application No. 10/773,054. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims disclose either explicitly or inherently the same method. Claim 43 of the co-pending application discloses an apparatus comprising: means for determining a power level of Gaussian noise in a signal (disclosed in line 5 of claim 27 of the co-pending application); means for detecting whether non-Gaussian noise is in the signal (disclosed in line 2 of claim 27 and lines 6-7 of claim 30 of the co-pending application); means for determining a gain factor associated with the non-Gaussian noise (disclosed in lines 7-8 of claim 27 of the co-pending application); and means for applying the gain factor to the power level of the Gaussian noise in the signal to calculate an equivalent noise power (disclosed in lines 9-10 of claim 27 of the instant application).

With regard to claim 44, the limitations of claim 44 are disclosed in claim 28 of the co-pending application.

With regard to claim 45, the limitations of claim 45 are disclosed in claim 29 of the co-pending application.

***Allowable Subject Matter***

6. Claims 1-12, 16-27, 31-42, are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

The instant application discloses a method, system and apparatus for multicarrier communication in the presence of periodic impulsive interference. A search of prior art records has failed to teach or suggest, alone or in combination:

“a method comprising: determining a power level of noise in a signal; detecting whether impulse noise is in the signal; determining a gain factor associated with the impulse noise; and applying the gain factor to the power level of noise in the signal to calculate an equivalent noise power” as disclosed in claim 1.

“a method comprising: determining a power level of Gaussian noise in a signal; detecting whether non-Gaussian noise is in the signal; determining a gain factor associated with the non-Gaussian noise; and applying the gain factor to the power level of the Gaussian noise in the signal to calculate an equivalent noise power” as disclosed in claim 13.

“a machine-readable medium storing executable instructions to cause a device to perform a method comprising: determining a power level of noise in a signal; detecting whether impulse noise is in the signal; determining a gain factor associated with the impulse noise; and

Art Unit: 2611

applying the gain factor to the power level of noise in the signal to calculate an equivalent noise power” as disclosed in claim 16.

“an apparatus comprising: means for determining a power level of noise in a signal; means for detecting whether impulse noise is in the signal; means for determining a gain factor associated with the impulse noise; and means for applying the gain factor to the power level of noise in the signal to calculate an equivalent noise power” as disclosed in claim 31.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Azenkot et al. discloses in US 2004/0057502 A1 Detection of Impulse Noise Using Unused Code In CDMA Systems.

b.) Sindhushayana et al. discloses in US 2004/0091025 A1 System and Method For Providing An Accurate Estimation Of Received Signal Interference For Use In Wireless Communications Systems.

c.) Goodman et al. discloses in US 5,844,940 Method And Apparatus For Determining Transmit Power Levels For Data Transmission And Reception.

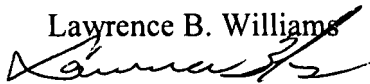
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-6:00).

Art Unit: 2611

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams



lbw

July 18, 2007



MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER